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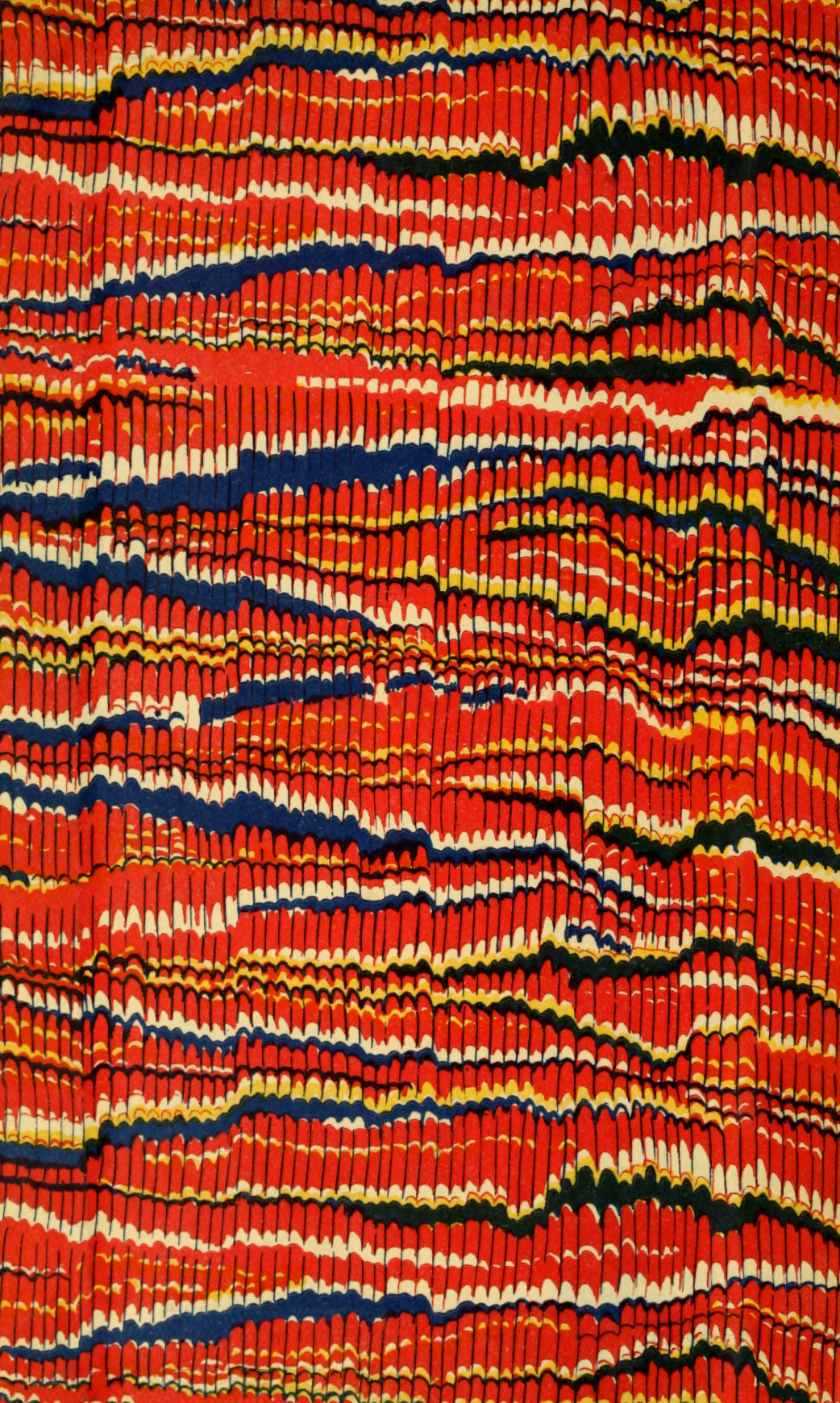

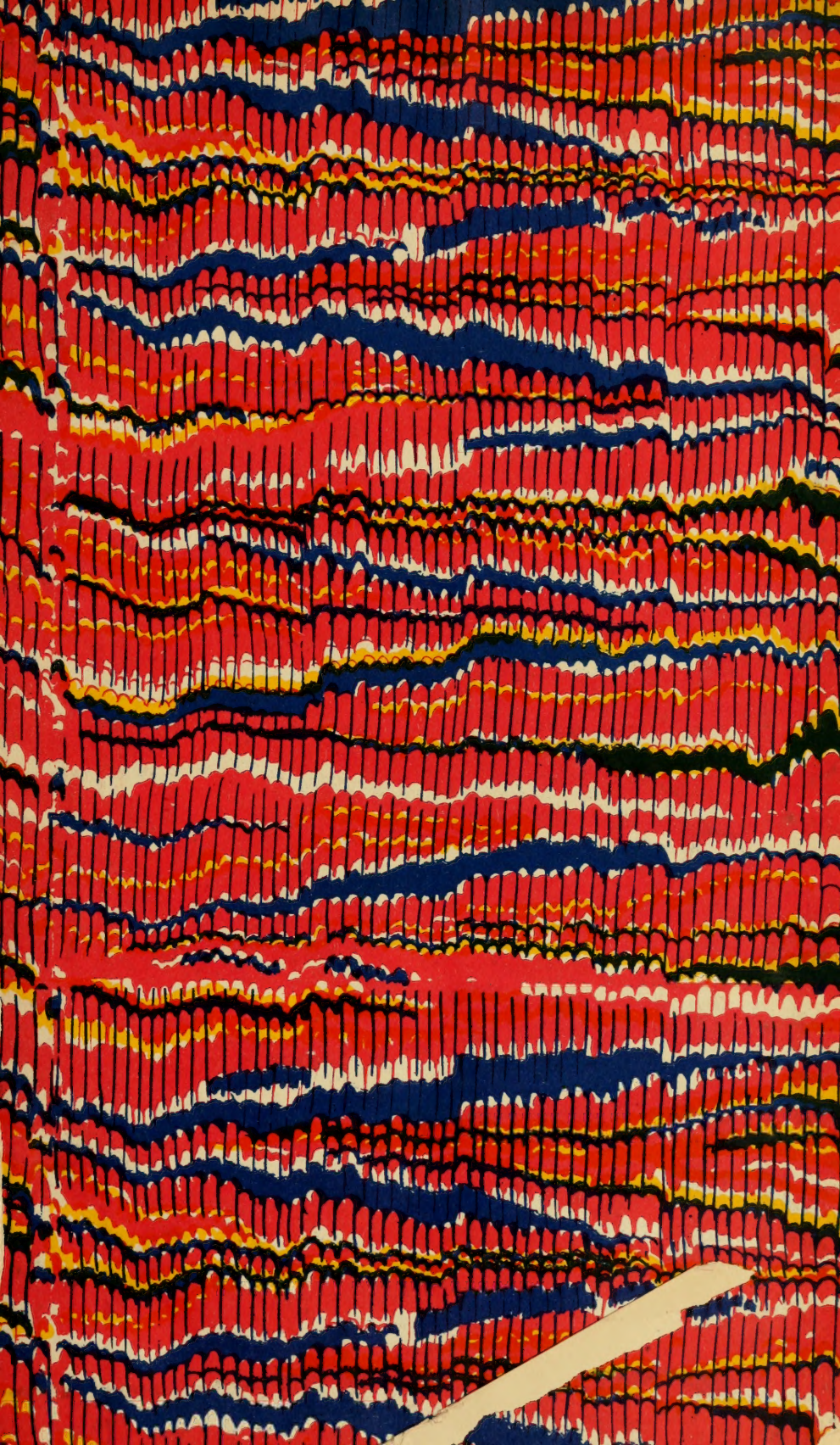

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OF THE

NEW ZEALAND BYRRHIDAE,

WITH

DESCRIPTIONS OF NEW SPECIES.

BY MAJOR T. BROUN, F.E.S.

Smithsonian Institution
APR 3 1919
National Museum

EDITED AND PUBLISHED UNDER THE AUTHORITY OF THE BOARD OF GOVERNORS OF THE INSTITUTE.

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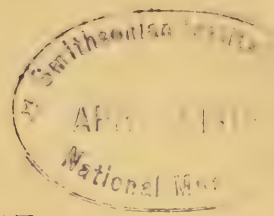

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INTRODUCTION.

There were several reasons for undertaking this task, one being the scattered nature of the literature on the subject.

The first description appeared in vol. ii of the great German work, "Voyage of the 'Novara,'" 1867, and was followed by that of Pascoe's *Morychus coruscans* in the Ann. Mag. Nat. Hist. for September, 1875. Since then many more have been published in different volumes of the latter work, and in separate parts of the Man. N.Z. Coleopt., so that a colonial entomologist who wished to identify his captures—perhaps a dozen—probably less, as they are generally rare—would have to procure just as many separate volumes, or parts, as the number of species in his collection. After this necessary expense had been incurred, he would not be long in coming to the conclusion that the numerous species assigned to *Morychus* or *Pedilophorus* within the last thirty years are not by any means easily recognised by descriptions alone.

When studying the genera of this family, he would have to consult Lacordaire's Hist. des Ins. Coleopt., in Latin and French. There he would see *Pedilophorus* treated as a synonym of *Morychus;* but on referring to the "Catalogus Coleopterorum" of Gemminger and Harald, the standard work, which was published about fourteen years later than Lacordaire's, it would be found that the process had been reversed. In many cases it would be found necessary to dissect some of his rare specimens in order to ascertain whether the details of structure corresponded with their European descriptions.

In this memoir, instead of recapitulating these generic diagnoses in detail, certain salient characteristics that are comparatively easily seen are given as the characters of each genus represented in New Zealand; and, as another aid to identification, Mr. A. Waterworth, of Northcote,

has been kind enough to prepare micro-photographs to illustrate this paper. This is the first step towards simplification—one which, it is hoped, will be appreciated here.

The species belonging to *Nosodendron*, *Curimus*, *Cytilissus*, and *Limnichus* are not difficult to distinguish from one another. *Liochoria huttoni* is not represented in my collection, but I have no doubt it is most nearly related to *Pedilophorus lewisi*.

Pedilophorus, it may be stated, has been retained in accordance with the "Catalogus Coleopterorum" of 1868. To this genus, considering *Morychus* as synonymous, twenty-three species have been attached. Here arises the principal difficulty—a real one, too. They are very homogeneous, varying chiefly in colour and sculpture, but without any well-marked or prominent differences, such as tubercles or superficial inequalities, that would be serviceable in tabulation. At first it was thought that the antennal structure would be useful in separating these species into series or sections, but after a good deal of time had been expended—I had almost said, wasted—it became apparent that these important organs are not reliable guides in classification, because, after carefully examining the left antenna of several species, or varieties, under the microscope, it was found that the right differed more or less. The membranous appendages of the third tarsal joints were tried next: these also were found unsatisfactory; the anterior or posterior were sometimes well developed, but if the tarsi had been smeared with gum in mounting the specimens on cardboard, or with dried sappy substances in the forest, they could hardly be seen at all. The extremities of the mandibles are bifid, or even tridentate in some species; but, as a rule, it is difficult to examine them properly in the case of old specimens without running the risk of spoiling the insects, and even in fresh examples they are not at all easy to manipulate. The scutellum and eyes vary but little, whilst the form of the head and thorax offers no distinct feature for discrimination. The species have, nevertheless, been divided into two sections, as will be seen on referring to their descriptions.

After a prolonged scrutiny of all the specimens in my collection it was decided that eleven species should be detached from *Pedilophorus*, and, along with three new ones, placed in a new genus, which has been named *Synorthus*. These fourteen species have been arranged in four sections, each with one or more special characteristics, so as to facilitate identification. Those that are located in the first section will give more trouble than the others.

Pedilophorus, thus reduced by half of its older members, is now in a very different position; and, although three species that proved to be new are now added, five or six of the total number, fifteen, exhibit certain obvious characters that will lead at once to their recognition; the remainder cannot be separated from one another quite so easily.

As the typical member of each section of *Pedilophorus* and *Synorthus*, as far as possible, has been pretty fully described, the general form and

structure of its nearest allies can be comprehended without the repetition of unnecessary details. With one or two exceptions, all measurements include the head as set out on cardboard; but I cannot yet guarantee that this applies to Redtenbacher's *Curimus zealandicus* or Reitter's *Pedilophorus helmsi*. Throughout this group very little variation occurs as regards size amongst the individuals of any species: measurement, therefore, is another aid to identification.

On perusal of the following list it will be seen that the *Nosodendridae*, *Byrrhidae*, and *Limnichidae*, all of which are here included in the general family name *Byrrhidae*, comprise forty-two species, which are distributed among seven genera.

In Britain there are twelve species and nine genera. In North America there are also nine genera and about forty species; whilst Europe, with the same number of genera, possesses about sixty species.

Our list, doubtless, will be augmented in course of time; yet even now it equals that of such a huge territory as that portion of America which extends southwards to the border of Mexico. Although New Zealand has already yielded, so far as this particular group is concerned, a number altogether out of proportion to its limited area, it must not be forgotten that some other extensive groups of *Coleoptera* are either entirely absent or only very poorly represented.

LIST OF THE NEW ZEALAND *BYRRHIDAE*.

Nosodendron ovatum *Broun*.
,, zealandicum *Sharp*.
Curimus squamiger *Broun*.
,, striatus *Broun*.
,, vestitus *Broun*.
,, zealandicus *Redtenbacher*.
Synorthus sternalis *Broun*.
,, orbicularis *Broun*.
,, nigricans *Broun*.
,, insuetus *Broun*.
,, nigralis *Broun*.
,, mixtus *Broun*.
,, mandibularis *Broun*. 3157
,, laevigatus *Broun*. 3158.
,, setarius *Broun*.
,, rotundus *Broun*.
,, villosus *Broun*.
,, pygmaeus *Broun*. 3159.
,, anomalus *Broun*.
,, granulatus *Broun*.
Pedilophorus foveigerus *Broun*. 3160.
,, gemmeus *Broun*.
Pedilophorus laevipennis *Broun*.
,, probus *Broun*.
,, puncticeps *Broun*.
,, tibialis *Broun*.
,, creperus *Broun*.
,, pulcherrimus *Broun*.
,, picipes *Broun*.
,, laetus *Broun*.
,, lewisi *Broun*.
,, sculpturatus *Broun*. 3161.
,, cognatus *Broun*. 3162.
,, coruscans *Pascoe*.
,, helmsi *Reitter*.
,, bryobius *Broun*. 3163.
Liochoria huttoni *Pascoe*.
Cytilissus claviger *Broun*.
Limnichus decorus *Broun*.
,, simplex *Broun*.
,, picinus *Broun*.
,, nigripes *Broun*.

Group BYRRHIDAE.

Nosodendron Latreille. Lacordaire, Hist. des Ins. Coleopt., tom. ii, p. 478.

Head not retracted during repose. *Labrum* indistinct. *Antennae* 11-articulate, inserted *below* the sides of the head; club abruptly enlarged, 3-jointed. *Tarsi* simple, pentamerous.

Nosodendron ovatum Broun. Man. N.Z. Coleopt., p. 242. (*Fig.* 1.)

Oval, convex, subopaque, fusco-piceous; bearing numerous short fulvescent setae, some of which are decumbent and a little thicker than the more numerous erect ones; legs and antennae piceo-rufous, club rufo-castaneous.

Head quite as long as broad, gradually narrowed anteriorly; evenly, distinctly, yet not closely punctured, more finely and densely in front. *Eyes* quite lateral, transverse, not prominent. *Thorax* twice as broad as long, base widely rounded, with obtuse angles; the sides nearly straight, but gradually narrowed towards the acute anterior angles; its sculpture slightly finer and closer than that of the head. *Scutellum* moderate, triangular, minutely punctate. *Elytra* as broad as thorax at the base, closely applied thereto, curvedly narrowed posteriorly, their punctation similar to that of the thorax.

Antennae shining, 2nd joint as long as the exposed portion of the basal one, but not as stout; 3rd elongate and slender, quite the length of the following 2 combined, both of these latter distinctly longer than broad; 7th slightly broader than 6th; 8th transverse, obconical, rather broader than the preceding one; club finely pubescent, abruptly marked off, unsymmetrical, the joints being attached to each other outside of the middle, and therefore appearing to be dilated inwardly, its basal joint inwardly narrowed behind, the intermediate rather shorter and more transversal, the terminal rather larger and subrotundate.

Femora broad at the base, gradually narrowed outwardly. *Tibiae* slender at the base, gradually expanded, so as to be almost elongate-triangular: they are finely denticulate, or spinose externally. *Tarsi* short, their terminal joint only extending beyond the outer extremity of the tibiae.

Underside distinctly punctate, with short setae. *Prosternal process* cuneiform, narrowed behind, not projecting beyond the coxae. *Mesosternum* delimited by a fine straight suture between the intermediate coxae, with a rather narrow, polished, median cavity in front. *Metasternum* elongate. *Ventral segments* with strongly sinuated sutures, the basal 4 about equal, 5th longest.

The insect in its natural state is usually covered with sappy matter, which must be removed before the sculpture and clothing can be seen.

Length, 2–2⅜ lines; breadth, 1¼–1⅜ lines.

Tairua, Waitakerei, and Hunua Ranges. Four specimens in my own collection.

Nosodendron zealandicum Sharp. Man. N.Z. Coleopt., p. 1106.

Oval, convex, black, moderately nitid; sparingly, very finely, and indistinctly pubescent; antennae and legs rufo-piceous, club dull fuscous; rather densely and finely punctate, the elytra with several series of fine punctures near the base.

Rather larger, more shining, with closer and finer sculpture than *N. ovatum*. The scutellum is larger, the tarsi more elongate, and the tibiae are less expanded towards the extremity.

Antennae slender, the basal joint concealed under the side of the head: 2nd stout; 3rd slender and very elongate, as long as the following 3 or 4 taken together; 4th and 5th equal, about twice as long as broad; 6th and 7th obconical, longer than broad; 8th transverse: club elongate, symmetrical, the intermediate joint transverse, the terminal largest, subconical.

Length, $2\frac{3}{4}$ lines; breadth, $1\frac{1}{2}$ lines.

Greymouth (Mr. R. Helms). My specimen, in bad order, was sent to me by Mr. P. Seymour from Te Oneroa.

¡Curimus Erichson. Lacord., Hist. des Ins. Coleopt., tom. ii, p. 481.

Head retracted during repose. *Antennae* 11-articulate, inserted at the sides of the head, basal joint not hidden. *Labrum* transverse. *Prosternal process* broad, angulate behind, and fitting closely into the mesosternal cavity. *Legs* and tarsi closely packed together when at rest. *Tibiae* slender at the base, dilated, or subangulate above the middle.

In the New Zealand species the *eyes* are rather flat, and, being situated at the sides of the head, just below the lateral margins, they are not at all prominent; sometimes, even in well-mounted specimens, they are hardly discernible when looked at from above.

Curimus squamiger Broun. Man. N.Z. Coleopt., p. 1448. (*Fig.* 2.)

Convex, broad, suboblong, moderately nitid, densely covered with depressed, minute, circular, dull smoky squamae, and many short, erect, greyish-yellow setae; body black; antennae, palpi, and legs rufo-piceous; claws rufescent.

Head conical, rather narrow, finely margined, indefinitely sculptured, with some minute grey scales. *Thorax* transverse, the length about half the width, its sides nearly straight, but much narrowed towards the deflexed subacute front angles, apex medially rounded; base widely and slightly bisinuate, apparently with rectangular angles; a denuded spot is smooth, but the scales cause the surface to appear minutely granulate. *Scutellum* distinct. *Elytra* finely striate, the interstices plane.

Tibiae deeply grooved for the accommodation of the tarsi, the anterior in front, the others behind, they are fringed with greyish setae; tarsi apparently without membranous appendages. *Antennae* slender; basal 2 joints of equal length, the 1st the stouter; 3–6 cylindrical; 7–9 short, obconical, rather broader than preceding one; 10th obconical, rather broader than 9th; the 11th as broad as the 10th, but nearly twice as long, these terminal 2 finely pubescent, so that the club seems to be only biarticulate.

Underside moderately shining, black, with short grey setae; metasternum distinctly but not coarsely punctate, the last ventral segment finely and closely.

Differentiated from *C. striatus* by the squamosity and thoracic sculpture.

Length, $1\frac{3}{4}$ lines; breadth, $1\frac{1}{8}$ lines.

Ashburton. A pair from Mr. W. W. Smith.

Curimus striatus Broun. Man. N.Z. Coleopt., p. 244.

Suboblong, rather broad, convex, moderately nitid, black, sparingly clothed with short greyish and erect fuscous setae.

Head rather short, apparently minutely and closely granulate. *Thorax* more than twice as broad as it is long, its sides slightly explanate, considerably narrowed anteriorly, the apex broadly rounded medially and finely margined, base widely bisinuate and very closely fitted to the elytra; its surface closely and finely yet distinctly punctured, it is laterally depressed in front. *Scutellum* elongate-triangular, but not easily seen. *Elytra* parallel-sided, but much narrowed, and rather abruptly declivous behind; on each there are 6 sharply impressed, impunctate, discoidal striae which become irregular behind, the sutural are broad and deep near the extremity; there are also 4 lateral striae, the dorsal grooves scarcely reach the base, where the sculpture is minutely rugose; the 3rd interstices are rather broader than the others, and the 5th are slightly and obtusely prominent near the top of the declivity. The terminal joint of the maxillary *palpi* is acuminate.

Length, head excl., $1\frac{3}{4}$ lines; breadth, $1\frac{1}{4}$ lines.

Parua, Whangarei. My somewhat damaged specimen was found by Mr. T. Beasely.

Curimus vestitus Broun. Ann. Mag. Nat. Hist., July, 1904.

Convex, subovate, slightly nitid, fusco-piceous, legs dark rufous, antennae and palpi piceous; densely covered with small, flat, greyish-yellow and grey scales, these latter predominate on the head and near the hind angles of the thorax, they also form irregular spots near the sides of the elytra; there are also numerous short, erect setae, which are fuscous on the dorsum, but grey near the sides, and nearly quite white but more slender on the forehead; tibiae with setiform denticles along the outside.

Head suboblong, rather flat. *Eyes* quite lateral and longitudinal, narrowed backwards, not prominent. *Thorax* strongly transverse, gradually narrowed towards the acute anterior angles, its punctation concealed, shallow. *Scutellum* triangular. *Elytra* with simple, sharply defined striae, interstices plane.

Underside opaque, sparingly studded with short, suberect grey setae, the punctation rather coarse and shallow.

Antennae sparsely hispid, 2nd joint nearly as long as the exposed portion of the 1st, 3rd and 4th equal, about twice as long as broad, the next 2 longer than broad but shorter than the preceding, 7th short, 8th and 9th transverse, 10th evidently broader than 9th, 11th oblong, large, closely united to the 10th; these terminal 2 therefore appear to form the oblong club.

Rather smaller than its two predecessors, and at once distinguishable by the dense pallid vestiture.

Length, $1\frac{3}{4}$ lines; breadth, 1 line.

Ophir, Otago. Discovered by Mr. J. H. Lewis. Two examples.

Curimus zeelandicus Redtenbacher. Voy. "Novara," Zool.

Breviter-ovatus, valde convexus, niger, supra cinereo nigroque squamulatus, setis erectis, clavatis nigris in interstitiis alternis elytrorum in fasciculos longitudinales irregulares condensatis, maculaque transversa post mediana elytrorum albido squamosa.

Long., $\frac{1}{2}$ lin.; lat. $\frac{9}{10}$ lin.

Synorthus gen. nov.

Body subrotundate, convex. *Scutellum* absent. *Thorax* and elytra truncate at base.

Head during repose with the eyes and organs of the mouth uncovered. *Labrum* transversely quadrate, carinate at base. *Mandibles* variable. Maxillary *palpi* with subovate, not acuminate, terminal joints. *Antennae* 11-articulate, their 1st joint quite free, being attached to the lower part of the forehead, at some distance from the eye, by means of a stalk-like articulation; they are gradually incrassate from the 6th or 7th joint onwards. *Tibiae* without well-marked tarsal furrows, not dilated towards the extremity. *Tarsi* pentamerous, 3rd joint with membranous appendage.

Prosternal process projecting into the semicircular mesosternal cavity; it is broader than in *Pedilophorus* (*Morychus*), so that the anterior coxae are more widely separated. The posterior coxal laminae differ, their trochanteral portion being three or four times longer, from front to rear, than the outer, whereas in *Pedilophorus* they taper gradually towards the sides, their basal portion being barely twice the length of the lateral. It is more nearly allied to *Pedilophorus* than to *Byrrhus*, *Cytilus*, *Simplocaria*, &c.

Section 1.

Body glabrous, or nearly so. Forehead indistinctly margined.

Synorthus sternalis Broun. Ann. Mag. Nat. Hist., September, 1893.

Glossy, black, front margin of thorax rufescent, legs and basal joint of antennae dark rufous, remaining joints paler, tarsi testaceous.

Head distinctly but rather finely punctured, more distantly on the middle than at the sides, with a few minute slender setae, the labrum with distinct yellow ones; forehead broadly rounded, finely margined near the antennae; basal carina of labrum separated from the forehead by a broad groove. *Thorax* twice as broad as long, its sides finely margined, straight but narrowed anteriorly; apex widely sinuate and finely margined towards the acutely rectangular angles; its sculpture like that of the head, but becoming finer and less definite towards the base and sides. *Elytra* abruptly declivous and narrowed behind, their punctation shallow and irregular, a little coarser than on the thorax, the sides and apex almost smooth.

Tibiae with minute slender grey setae, the anterior nearly straight, with short, external, subapical grooves; the intermediate more outwardly curvate than the posterior. *Tarsi* shorter than the tibiae, with well-developed appendages. *Eyes* large, more prominent in front than behind, with indefinite facets. *Antennae* pubescent, basal joint thick, cylindric, and nearly double the length of the next, which is not as stout; 3rd elongate and slender, nearly as long as the following 3 combined; 4–6 about equal, evidently longer than broad; 7th longer than broad, only slightly thickened; 8–10 as long as broad; 11th elongate, yet shorter than the preceding 2 taken together; the club therefore very elongate, apparently 5-jointed, but not at all well marked off. *Mandibles* obtusely bifid at apex.

Underside shining, piceous, with fine brassy hairs, which are more concentrated on the terminal ventral segment than elsewhere. *Metasternum* grooved behind, rather finely and not closely punctured, the *abdomen* more finely and closely, quite densely near the sides.

Prosternum much abbreviated in the middle, its process plane and finely punctate; the flanks distinctly curvate and margined inwardly, moderately

concave in front, the basal half more deeply. *Epipleurae* broad, concave at the base, but becoming linear behind the metasternum. Basal *ventral segment* gradually depressed at the sides, but not concave.

Length, 2 lines; breadth, $1\frac{3}{8}$ lines.

Ligars Bush, Papakura. Two, found under logs.

Synorthus orbicularis Broun. Man. N.Z. Coleopt., p. 245.

Glabrous, shining, piceo-rufous; antennae, palpi, and legs flavescent.

Head distinctly punctured, more closely near the eyes than on the vertex; forehead slightly rounded, finely margined between the eyes and antennae. *Thorax* finely yet distinctly margined in front, its sculpture rather finer than on the middle of the head, much finer but closer towards the base. *Elytra* with rather shallow irregular punctures, less distinct than those near the front of the thorax.

Eyes finely faceted. Maxillary *palpi* with broad terminal joints, which are truncate at the apex. *Antennae* with the club apparently 6-articulate, the 6th joint being rather broader than the preceding one, the 11th largest.

Like *S. sternalis*, but distinguished therefrom by the thoracic margins and uniformly yellow colour of the limbs.

Length, $1\frac{7}{8}$ lines; breadth, $1\frac{1}{4}$ lines.

Parua, Whangarei. Under logs; two individuals.

Synorthus nigricans Broun. Man. N.Z. Coleopt., p. 671.

Nitid, nude, piceo-niger, legs dark red, tarsi fulvescent, antennae castaneo-rufous.

Head moderately coarsely punctured, distantly on the middle; forehead subtruncate in the middle, finely margined near the eyes. *Thorax* distinctly but not closely punctate, more finely than the head, more finely towards the base, with an elongate median fovea behind the middle, the apex slightly margined near the angles. *Elytra* with unequally distributed punctures, which are less definite than those near the front of the thorax, not effaced near the extremity; the sutural region a little depressed behind the middle.

Antennae gradually thickened, the club apparently 6-jointed, basal joint thick, pitchy-red.

The narrow ante-basal fovea on the thorax is a good differentiating feature.

Length, 2 lines; breadth, $1\frac{1}{4}$ lines.

Parua. Unique.

Synorthus insuetus Broun. Man. N.Z. Coleopt., p. 769.

Shining, glabrous, quite black, legs and basal joint of antennae rufous, remaining joints pale rufo-castaneous, tarsi fulvescent.

Head rather strongly rounded in front, and, though without margins, rather well defined there; it is finely yet distinctly punctured but nearly smooth along the middle. *Thorax* very finely, rather distantly and indistinctly punctate, the apex finely margined near the angles. *Elytra* very finely and indefinitely sculptured.

Eyes only moderately prominent, strongly transverse, with obsolete facets. *Antennae* with the 6th joint rather broader than its predecessor, so that the club is indistinctly 6-articulate, joints 8–10 are strongly transverse.

The fine sculpture, form of the eyes, and unusually broad joints near the terminal one, will lead to its recognition.

Length, $1\frac{3}{4}$ lines; breadth, $1\frac{1}{8}$ lines.

Parua. Unique.

Synorthus nigralis Broun. Man. N.Z. Coleopt., p. 1348. (*Fig.* 3.)

Glossy, nearly nude, having only a few minute yellowish hairs, which are most easily seen near the extremity of the hind-body; it is black, with testaceous tarsi, fulvescent antennae; the basal joint, however, and the legs, rufous.

Head broadly rounded, obtuse and not at all well limited in front; finely yet distinctly punctured, closely near the eyes, nearly smooth on the middle; on the vertex there are 4 shallow foveae. *Thorax* not margined in front, with acutely prominent anterior angles, its sculpture similar to that of the sides of the head. *Elytra* somewhat irregularly and finely punctate, less distinctly near the base than on the disc, the suture a little depressed behind the middle, as in *S. nigricans*.

Tibiae with fine grey setae, the anterior slightly curved, the others normal. *Club* apparently 5-articulate, joints 8–10 moderately transversal. *Mandibles* obtuse and not distinctly dentate at the extremity. *Eyes* obsoletely faceted. *Antennal grooves* broad and deep, extending underneath alongside the eyes, as in *S. sternalis*.

Underside shining, rufo-piceous, abdomen rufescent, clothed, on the femora and sides especially, with slender brassy setae. *Metasternum* finely and distantly punctured, middle of abdomen still more finely and indistinctly, the sides and terminal segment very densely and minutely sculptured. *Prosternum* less abbreviated than in *S. sternalis*, the front of its flanks plane.

Maxillary *palpi* with thick terminal joints, their apical portion distinctly narrower and truncate at apex.

Somewhat similar to *S. nigricans*. The forehead different, thoracic angles more acute and prominent, the antennae more elongate, &c.

Length, 2 lines; breadth, $1\frac{1}{4}$ lines.

Boatman's, Reefton. Mr. T. Cavell; three examples.

Synorthus mixtus Broun. Man. N.Z. Coleopt., p. 901.

Nitid, black, head and thorax slightly bronzed, legs dark rufous, tarsi and intermediate joints of antennae rufescent, basal joint pitchy-red, terminal joints paler.

Head with some slender grey setae, medially curved but not margined in front; closely and finely punctured near the eyes, very distantly on the middle. *Thorax* not perceptibly margined in front, with acute rectangular angles; distinctly but finely and not closely punctate, indistinctly near the base. *Elytra* finely and irregularly punctured, and, like the thorax, bearing some minute, hardly discernible setae.

Front and hind *tibiae* slightly, the intermediate evidently, arched, with distinct slender grey setae. *Antennae* with the club 5-articulate; 3rd joint almost as long as the following 3, which are just a little longer than broad, 9th and 10th transverse. Maxillary *palpi* with unusually broad terminal joints, their apical portion submembranous and impressed or concave. *Eyes* large, finely faceted.

Underside piceo-niger, nitid, with slender greyish pubescence. *Metanum* distinctly, abdomen finely punctate, the 5th segment densely.

Smaller and rather less rotundate than the other members of this section. The remarkable palpi, if quite natural, as they seem to be, cannot well be mistaken for any ordinary form.

Length, $1\frac{1}{2}$ lines; breadth, $\frac{7}{8}$ line.

Mount Maungatua, Otago. Mr. S. W. Fulton; two individuals.

3157. Synorthus mandibularis sp. nov.

Glossy, aeneo-niger, legs and 1st antennal joint rufous, remaining joints infuscate, tarsi testaceous.

Head with some slender greyish hairs, rather large, the forehead rounded, not margined; it is finely, distinctly, and closely punctured, but nearly smooth behind. *Thorax* with acute and slightly prominent anterior angles, its apex with slender margins near the angles only; its punctation finer than that of the head, and apparently absent on some parts. *Elytra* with irregular, rather shallow, and not close punctures, and appearing slightly coriaceous.

Tibiae with fine flavescent setae, the anterior nearly straight, the others moderately arched externally; tarsal appendages well developed. *Eyes* only slightly prominent, rotundate behind, truncate in front. *Mandibles* thick, curvate, and acute at the extremity as examined from above; when carefully examined from the front they are seen to be minutely tridentate, though appearing nearly truncate, at the apex. *Antennae* with the last 5 joints enlarged, 9th and 10th transverse, 3rd nearly the length of the following 3 taken together; these 3, though longer than broad, are not elongate.

Underside shining, piceous, with numerous slender pale brassy setae. *Metasternum* distinctly but not closely punctured, the ventral segments more finely and closely, the 5th even more closely. Maxillary *palpi* with broadly ovate terminal joints, truncate at the apex.

Differentiated by the small size and glossy bronzed surface. *S. mixtus* can be distinguished by its peculiar palpi.

Length, $1\frac{5}{8}$ lines; breadth, 1 line.

Mount Cook, at an elevation of 2,500 ft. A solitary individual found by Mr. T. F. Cheeseman, January, 1909.

3158. Synorthus laevigatus sp. nov.

Glabrous, very glossy, black, apex of thorax and extremity of elytra slightly rufescent, legs fusco-rufous; tarsi, palpi, and antennae fusco-testaceous, the basal joint of these last rufous.

Head moderately convex, the forehead broadly rounded and rather sharply defined, but not margined except near the antennae; there are a few fine indistinct punctures near the sides. *Thorax* with some scattered fine punctures, anterior angles acutely rectangular, its sides not perfectly straight, yet hardly perceptibly curved. *Elytra* very slightly depressed and pointed just at the apical margin, their punctation distant and obsolete.

Eyes only slightly prominent. Maxillary *palpi* with broad terminal articulations, obtuse or subtruncate at the extremity, and somewhat concave or flattened. *Tibiae* with slender greyish setae, the anterior nearly straight, gradually narrowed towards the extremity, without tarsal furrows. *Antennae* rather short, the club 5-articulate; joints 8–10 evidently transverse, 7th subquadrate, rather smaller than 8th but broader than the moniliform 6th, 4th and 5th longer than broad but not elongate, 3rd

slender, about as long as 4th and 5th combined, the terminal subconical, not double the length of the penultimate.

Another alpine species, which may be known by the glossy surface and almost entire absence of sculpture; indeed, with an ordinary lens it seems quite smooth.

Length, $1\frac{5}{8}$ lines; breadth, 1 line.

Mount Arthur. My specimen was, among other species of *Coleoptera*, collected by Mr. T. F. Cheeseman, and the late J. Adams, master of the Thames High School.

SECTION 2.

Body with erect setae. Forehead distinctly margined.

Synorthus setarius Broun. Man. N.Z. Coleopt., p. 245. *Fig.* 4.)

Piceous, thorax somewhat rufescent, legs and basal joint of antennae dark rufous, the other joints paler, tarsi testaceous; moderately shining, with numerous outstanding fulvescent setae.

Head finely yet definitely, but not closely, punctate; forehead widely rounded, distinctly margined from one eye to the other; carina of labrum distinct. *Thorax* strongly transverse, apex subtruncate, slightly marginated near the sides, anterior angles acute and a little prominent, its sides margined, straight but gradually narrowed anteriorly; distinctly, finely, and moderately closely punctured, more distantly near the sides. *Elytra* moderately and rather distantly punctate.

Tibiae finely setose, the anterior nearly straight, unimpressed in front, the others curvate externally. *Tarsi* rather slender, with distinct appendages. *Eyes* prominent in front. *Mandibles* sometimes minutely tridentate at the extremity. *Antennae* with the basal joint stout and cylindric, 2nd rather smaller, 3rd slender and as long as the following 3 combined, 7th about twice as broad as the 6th, joints 8–10 still broader, transverse, 11th largest; the club therefore appears 5-articulate.

Underside piceous, a little nitid, the slender but distinct yellowish pubescence thicker at the sides of the abdomen and on the last segment than it is elsewhere. *Metasternum* moderately coarsely punctate, the sculpture of the ventral segments fine and indistinct.

Prosternal process very broad and flat. The flanks of the prosternum and the basal portion of the epipleurae are deeply concave, and form a continuous cavity for the accommodation of the femora; the basal ventral segment is, at the sides, much below the level of the epipleurae.

Length, $1\frac{1}{2}$ lines; breadth, 1 line.

Mount Manaia, Whangarei. Unique.

Obs.—The description of the lower surface is derived from a reversed specimen of a varietal form, which I got at Ligars Bush, Papakura. The body is concolorous, $1\frac{3}{4}$ by $1\frac{1}{8}$ lines, with more elongate terminal joints to the antennae, but otherwise presenting no obvious differences from the type. In both the last joint of the maxillary palpi is broad.

Synorthus rotundus Broun. Man. N.Z. Coleopt., p. 671.

Rufo-piceous, moderately nitid, bearing many erect pale setae; legs and basal joint rufous, remaining joints pale ferruginous, tarsi flavescent.

Head rounded and margined in front, with distinct, though fine, distant punctures. *Thorax* very distinctly yet finely and rather closely punctate; the front slightly medially rounded. *Elytra* more finely and much more distantly punctured than the thorax, rather abruptly vertical behind.

Eyes finely faceted, not prominent. *Antennae* rather short, basal 2 joints normal, 3rd slender and equalling the following 2 in length, 5th distinctly shorter than 4th, 6th very small, 7–10 gradually dilated, 11th large, ovate, somewhat pointed towards the extremity; club evidently 5-jointed.

Smaller than *S. setarius*, the thorax more rounded in front and therefore rather longer, its punctation more definite and closer, that of the elytra much closer. The body more rotundate, and at the extremity quite precipitous instead of sloping. The antennae also differ.

Length, $1\frac{1}{8}$ lines; breadth, $\frac{7}{8}$ line.

Parua, Whangarei. Unique.

Section 3.

Body villose. Forehead not distinctly margined in front.

Synorthus villosus Broun. Man. N.Z. Coleopt., p. 900.

Piceo-fuscous, slightly nitid, head feebly aeneous, legs rufous; antennae, except the red basal joint, fulvescent; tarsi testaceous; rather thickly covered with long, slender, suberect greyish hairs, and some shorter decumbent ones with others attached, so as to appear somewhat feather-like.

Head closely and finely punctured, rather large, not visibly margined in front. *Eyes* moderately large and prominent, rather distinctly faceted. *Thorax* very finely and distantly punctured, of the ordinary form. *Elytra* finely and distantly punctate, more distinctly than the thorax.

Tibiae with fine setae, the front unimpressed, and, like the posterior, a little curvate, the intermediate more strongly. *Tarsi* with well-developed membranes, their claws evidently thickened, but not dentate, at the base. *Antennae* with fine grey pubescence, the 7th joint small, only half the size of the 8th, which is hardly as broad as the 9th, the 11th subconical; the club, nevertheless, seems 5-jointed.

Underside piceous, abdomen quite rufescent, rather thickly clothed with long slender greyish hairs; the sculpture concealed, apparently rather coarse and shallow on the metasternum, but close and minute on the sides of the abdomen.

The slender elongate pubescence is its best distinguishing character.

Length, $1\frac{3}{8}$ lines; breadth, $\frac{7}{8}$ line.

Dunedin. Mr. T. Chalmer; two individuals.

3159. **Synorthus pygmaeus** sp. nov.

Fusco-piceous, legs ferruginous, tarsi, palpi, and joints 3–11 of the antennae flavescent; covered with elongate, slender, decumbent, cinereous, and suberect yellowish hairs, these latter more conspicuous on the thorax than on the hind-body.

Head rather large, finely punctured, more finely and distantly on the vertex, the forehead broadly rounded but not rimmed. *Thorax* of the usual form, almost smooth on the denuded central portion. *Elytra* finely punctured near the suture, on the middle—quite perceptibly there, but seemingly impunctate elsewhere.

Tibiae finely setose, the front and hind pairs nearly straight, the intermediate moderately arched. *Tarsi* relatively rather stout and short, with well-developed appendages. *Eyes* moderately convex, not prominent in front. *Antennae* rather short, with thick rufous basal joints, 3rd elongate, almost as long as the following 2 combined, 6th and 7th short and rather

small, 8–10 abruptly enlarged and strongly transverse, 11th large, subovate ; club apparently quadri-articulate.

Underside shining, with distinct yellowish pubescence. *Metasternum* piceous, rather large, relatively coarsely punctured on the middle, finely behind. *Abdomen* rufescent, basal 3 segments finely punctate, the 5th, in the middle, with excessively short yet quite definite setae.

This is the smallest species of the genus, with long slender vestiture like that of *S. villosus*, with shorter tarsi, and its eyes less prominent in front.

Length, $1\frac{1}{8}$ lines ; breadth, $\frac{3}{4}$ line.

Southland. Sent by Mr. A. Philpott, with the number 265 attached.

Section 4.

Body with distinct vestiture. Forehead not perceptibly margined. Scutellum present.

Synorthus anomalus Broun. Man. N.Z. Coleopt., p. 243.

Rufo-castaneous, legs ferruginous, antennae, tarsi, and palpi fulvescent ; rather thickly and irregularly clothed with tawny, decumbent, slender setae, and many erect, coarser ones, which are more or less irregularly concentrated, there being 3 tufts on each elytron.

Head curvate in front, not margined ; its sculpture ill defined, not close, fine and distant on the vertex, rather closer and apparently almost punctate-granulose at the sides ; carina of the labrum distinct. *Thorax* with very minute distant sculpture, apparently granular ; it is subtruncate in front, and very much narrower there than at the base. *Elytra* minutely and remotely granulate.

Tibiae with moderately coarse flavescent setae, all very little arched externally, without visible tarsal furrows. *Tarsi* with distinct appendages, claws very small. Maxillary *palpi* with elongate-oval terminal articulations, which taper towards the extremity. *Antennae* gradually thickened from the 6th joint, so that the club seems to be 6-jointed, 4th and 5th equal, the latter elongate-oval, 3rd distinctly longer than 4th and thickened towards the apex. *Eyes* finely but distinctly faceted. *Scutellum* small, but distinctly marked off.

This and the following species, no doubt, will not remain permanently with this genus, but, as they are represented by single specimens only, and are difficult to manipulate, it is not advisable to proceed further until more specimens are available.

Length, $1\frac{3}{4}$ lines ; breadth, $1\frac{1}{8}$ lines.

Tairua. Unique. When found it was covered with a film of sappy matter which was difficu't to scrape off with the point of a needle, and until that had been done its sculpture could not be seen.

Synorthus granulatus Broun. Ann. Mag. Nat. Hist., September, 1893.

Shining, rufo-piceous, sparingly clothed with erect, moderately coarse, yellowish setae ; legs and 1st joint of antennae red, the other joints and the tarsi fulvescent.

Head finely and rather closely punctate, in some aspects appearing minutely granulate ; the forehead not perceptibly margined, labral carina only moderately distinct and rather distant from the forehead. *Eyes* large and prominent, with fine facets. *Thorax* very finely but not closely granulate, much depressed towards the anterior angles, its width more than

double the length. *Scutellum* small, triangular. *Elytra* most convex before the middle, much narrowed, but not vertical behind; their surface slightly uneven, but without definite depressions; the sutural region slightly elevated behind; their sculpture resembles that of the thorax.

Tibiae moderately finely setose, the anterior unimpressed but obliquely narrowed externally near the apex, the other pairs are slightly arched outwardly; the tarsal appendages are moderately developed. *Antennae* moderately elongate, 2nd joint hardly more than half the size of the 1st, 4th slender and elongate yet distinctly shorter than 3rd, 5th and 6th evidently longer than broad, 7th very slightly longer but nearly as broad as the 8th, 9th and 10th rather broader than long, 11th elongate, about as long as the preceding 2 combined; club apparently 5-jointed.

Differentiated by the minute granular sculpture, somewhat uneven elytra, &c.

Length, 1½ lines; breadth, 1 line.

Ligars Bush, Papakura. A solitary individual.

Pedilophorus Steffahny.

Body convex, oviform; glabrous or nearly so. *Scutellum* distinct. *Thorax* bisinuate at base.

Section I.

Anterior tibiae curved, flattened or impressed along the outer portion of the front face.

3160. Pedilophorus foveigerus sp. nov. (*Fig.* 5.)

Glossy, viridi-aeneous, the head and the sides and base of elytra rufescent, legs dark rufous, tarsi and intermediate joints of antennae ferruginous, the terminal joints rather darker, the basal piceo-rufous.

Head with rather shallow but distinct punctures, and appearing slightly rugose; forehead moderately rounded, not margined. *Thorax* moderately finely, not deeply or closely, but regularly, punctured; its sides finely margined, nearly straight, but gradually narrowed towards the acute and somewhat prominent anterior angles, the apex widely sinuate towards the sides. *Scutellum* triangular, rather small, not transverse. *Elytra* not at all vertical behind, their sculpture like that of the thorax.

Tibiae with a few slender inconspicuous setae, the anterior rather more curved below the middle than above it, the intermediate strongly arched externally, with small apical spines. *Tarsi* stout, the appendages of the 3rd joints prolonged half-way underneath the 5th. *Eyes* large, finely faceted, more prominent in front than behind. *Antennae* moderately elongate: 3rd joint slender and elongate: 4th and 5th also long yet shorter than 3rd: 6th longer than broad, very slightly thicker: 7th slightly longer than broad, rather thicker than 6th: 8–10 enlarged, sometimes transversal, 11th longer; the club, therefore, appears 5-jointed; the thick 1st joint is free, having a short basal stalk by which it is attached to the head near the front of the eye.

Underside shining, with some slender yellow hairs on the 5th ventral segment, the rest of the pubescence is indistinct. *Metasternum* finely punctate, the more rufescent abdomen still more so. Terminal *ventral segment*, at the apex, with a well-marked broad fovea, which seems to terminate in a short fissure.

Prosternal process little more than half the width of that of *Synorthus sternalis*. The *flanks* are depressed behind, but level in front. The posterior *coxal laminae* taper gradually towards the sides, their trochanteral portion being barely twice as long, from front to rear, as the lateral. The sides of the *mesosternum* are deeply concave, and the epipleurae are linear except at the short flattened space alongside the metasternum. The basal *ventral segment* is simply gradually depressed, and the femora fit in below the coxal laminae.

Pedilophorus gemmeus Broun. Man. N.Z. Coleopt., p. 769.

Shining, glabrous, dark rufo-cupreous, head aeneo-niger, legs pale ferruginous, antennae pale rufo-castaneous, their basal joint pitchy red, tarsi and palpi testaceous.

Head distinctly punctured, less closely on the vertex than near the eyes; forehead simple, rather strongly rounded. *Thorax* twice as broad as long, its sides not quite straight, being slightly sinuate behind the middle, so that the posterior angles seem to extend slightly outwards; the apex sinuate and distinctly margined near each side; punctation rather finer than that of the head, but quite distinct. *Scutellum* triangular, small. *Elytra* finely punctured and coriaceous.

Antennae gradually thickened from the 6th joint onwards, 5th joint hardly thicker than the more elongate 4th; the club therefore appears 6-articulate. *Eyes* finely yet distinctly faceted. *Tarsi* rather slender, with moderate membranes; claws of the front pair evidently thicker throughout than the posterior.

The strongly curved forehead, the sinuate sides, and distinctly marginated apex of the thorax are its distinguishing characters.

Length, $1\frac{3}{4}$ lines; breadth, 1 line.

Parua. Unique.

Pedilophorus laevipennis Broun. Ann. Mag. Nat. Hist., September, 1893.

Shining, aeneo-piceous, head and thorax slightly cupreous, legs rufo-piceous, antennae dark red, the last six joints somewhat castaneous.

Head distinctly and rather evenly punctured, nearly as closely on the vertex as at the sides; forehead moderately rounded, simple; labrum, mandibles, and palpi almost black. *Thorax* with the apical margins quite as definite as the lateral, its sculpture like that of the head but rather shallow. *Scutellum* triangular, very small. *Elytra* nearly smooth, finely coriaceous, and with, in some lights, indications of obsolete striae. *Claws* very small. *Club* apparently 6-jointed.

Metasternum rather flat, very finely and distantly punctate. *Abdomen* with minute sculpture and pubescence.

This is the second species with definite margins extending from the anterior angles to near the middle of the thorax at the apex. In appearance it differs much from the preceding ones.

Length, $1\frac{3}{4}$ lines; breadth, quite 1 line.

Mount Pirongia, Waikato. Unique. December, 1892.

Pedilophorus probus Broun. Ann. Mag. Nat. Hist., September, 1893.

Nitid, aeneo-niger, tinged with blue, the base and sides of elytra slightly rufescent, the legs and basal joint of the antennae rufo-piceous, remaining joints and the tarsi red.

Head broadly rounded in front, distinctly punctured, very closely near the sides, with 2 smooth spots on the middle. *Thorax* regularly and distinctly punctate, rather more finely than the head; the frontal margins, towards the sides, moderately definite. *Scutellum* triangular. *Elytra* irregularly, rather finely, yet quite perceptibly and rather closely, punctured, less evidently near the base.

Tibiae finely setose, the anterior a little dilated below the middle. *Eyes* distinctly but finely faceted. *Antennae* with the club apparently 5-jointed; 7th joint obconical, slightly enlarged, 8–10 transverse, 11th large, subovate.

This comes near *P. foveigerus*, but can be recognised by the dilatation of the front tibiae and the moderately developed apical margins of the thorax.

Length, $2\frac{1}{4}$ lines; breadth, $1\frac{3}{8}$ lines.

Taieri, Otago. My specimen was found by Mr. S. W. Fulton.

Pedilophorus puncticeps Broun. Ann. Mag. Nat. Hist., September, 1893.

Glossy, aeneous; the head obviously, the sides of the thorax and elytra slightly, rufo-cupreous; legs dark red, tarsi and antennae fulvescent, the latter becoming duller and more castaneous towards the extremity, basal joint dark red.

Head moderately coarsely punctured, very closely near the eyes; forehead rounded. *Thorax* evidently yet less coarsely punctured than the head, more closely and finely near the middle of the base, the central linear space nearly smooth, the margins of the apical sinuations slightly developed; its sides straight but narrowed anteriorly, the posterior angles rather more acute than the anterior. *Scutellum* small, triangular. *Elytra* finely and not closely punctate, somewhat coriaceous, towards the extremity particularly.

Tibiae with slender greyish setae, the front pair moderately curved, and broadly impressed near the outer margin. *Tarsi* rather slender. *Eyes* finely but distinctly faceted.

Antennae gradually incrassate from the 7th joint onwards, the 2nd rather slender, but little thickened at the base; 3rd elongate, yet scarcely longer than the following one; 5th also elongate, just appreciably shorter than the 4th; 6th twice as long as broad, hardly at all dilated; 7th obconical, rather longer than broad; 8–10 broad, moderately transverse; 11th oblong, not quite the length of the preceding 2 combined; club apparently 5-articulate.

The coarse punctation of the head, rather slender tarsi, and the structure of joints 2 to 6 of the antennae, render its identification easy.

Length, $2\frac{1}{4}$ lines; breadth, $1\frac{3}{8}$ lines.

Clevedon, Hunua Range. My specimen was found by Mr. G. Campbell Munro.

Pedilophorus tibialis Broun. Ann. Mag. Nat. Hist., September, 1893.

Convex, rather narrow, shining, aeneous, the head and sides evidently rufescent; legs and antennae, save the dark basal joint, ferruginous, tarsi fusco-testaceous.

Head with a few slender grey hairs, rather short, middle of forehead subtruncate, simple; the punctation very distinct, closer near the eyes than on the vertex. *Thorax* rather finely punctate, still more so towards

the sides and base, with straight, anteriorly narrowed sides and acute angles, the frontal margins rather slender. *Scutellum* small, triangular, minutely punctate. *Elytra* finely punctate, more or less coriaceous.

Tibiae with slender hairs, the anterior widely explanate and strongly curvate outwardly, the dilated outer half broadly impressed. *Tarsi* stout. *Eyes* prominent, distinctly yet finely and closely faceted. *Antennae* rather short, 3rd joint elongate and slightly oviform, 4th and 5th gradually narrowed towards the base, of nearly equal length, each obviously shorter than 3rd; 6th as long as broad, only slightly dilated, obconical; 7th broader than long, not double the width of 6th; 9th and 10th transverse; 11th subovate, not as long as the preceding 2 combined; club apparently 5-jointed.

This beautifully iridescent species can be readily identified by its widely expanded front tibiae.

Length, $1\frac{3}{4}$ lines; breadth, 1 line.

Dyer's Pass, near Christchurch. My rather mutilated specimen was found by Mr. H. Suter.

Section 2.

Anterior tibiae nearly or quite straight, grooved along their outer face.

Pedilophorus creperus Broun. Ann. Mag. Nat. Hist., September, 1893.

Convex, oval, moderately nitid, sparingly clothed with minute yet quite perceptible grey hairs; piceo-niger, elytra slightly bronzed, legs piceo-rufous, tarsi and antennae ferruginous, basal joint of the latter dark red.

Head moderately coarsely and rather evenly punctured, forehead subtruncate. *Thorax* distinctly punctate, less coarsely than the head; its sides straight, very gradually narrowed anteriorly, the angles rectangular and acute but not prominent, the front margins definite near the sides and only slightly sinuate. *Scutellum* triangular, small. *Elytra* with coriaceous sculpture, the fine punctation distinct on the disc.

Tibiae with slender grey setae, the anterior straight, rather narrow, impressed along the outside; the other pairs moderately curvate externally. *Tarsi* stout, with well-developed membranous appendages. *Eyes* prominent, with numerous fine facets. *Antennae* moderately elongate; basal joint stout; 2nd more slender and shorter; 3rd elongate and slender; 4th and 5th also elongate, both shorter than 3rd; 6th longer than broad, slightly thickened; joints 8–10 transversal, 11th nearly double the length of the penultimate; the terminal 5 joints appear to form the elongate club, the 7th being a little broader than the 6th. Terminal joint of maxillary *palpi* rather thick, subtruncate at apex. *Mandibles* apparently bifid at extremity.

This is somewhat similar to *P. laevipennis*, belonging to Section 1, but much darker, less shining, with more distinctly sculptured elytra, and quite perceptibly pubescent.

Length, $1\frac{7}{8}$ lines; breadth, $1\frac{1}{8}$ lines.

Dyer's Pass, Canterbury. Unique. Another of Mr. H. Suter's captures.

Pedilophorus pulcherrimus Broun. Ann. Mag. Nat. Hist., May, 1909. (*Fig.* 6.)

Oval, bearing numerous, hardly perceptible on the elytra, more distinct on the head, greyish slender setae; brilliant viridi-aeneous, the head, scutellum, sides, and base of elytra with metallic red reflections; tibiae

and basal joint of antennae dark rufous, remaining articulations paler or more infuscate, tarsi fulvescent.

Head moderately coarsely punctured, more closely near the sides than on the vertex; forehead slightly rounded. *Thorax* quite twice as long as it is broad, its sides not quite straight, being widely yet only slightly incurved near the middle; the apical margins, near the sides, nearly as well defined as the lateral; its punctation very distinct and regular, but not quite as coarse as that of the head; it has 2 shallow discoidal foveae. *Scutellum* triangular, small. *Elytra* nearly smooth at the base, elsewhere finely though quite distinctly punctured.

Tibiae with small terminal spurs, finely setose; the anterior nearly straight, grooved along the outside. *Tarsi* stout, with well-developed appendages. *Eyes* prominent, with fine facets. *Antennae* with their 3rd joint rather longer but much more slender than 2nd, 4–6 gradually abbreviated; all, however, are elongate; 7th rather smaller than 8th, but broader than 6th; 9th and 10th transverse, 11th as long as the preceding 2 combined; club apparently 5-jointed.

Underside shining piceous, with reddish reflections, with slender, scanty, yellowish pubescence. *Metasternum* distinctly, *abdomen* more finely and closely, punctured. Maxillary *palpi* normal, terminal articulations not truncate at apex. *Mandibles* apparently trifid at extremity.

P. foveigerus is like this in appearance, but is more finely sculptured, destitute of pubescence, and the sides of the thorax are not sinuate.

Length, 2 lines; breadth, $1\frac{1}{8}$ lines.

Invercargill. Two, from Mr. A. Philpott.

Pedilophorus picipes Broun. Ann. Mag. Nat. Hist., September, 1893.

Shining, aeneo-piceous, head and thorax slightly rufescent, legs and antennae rufo-piceous, tarsi pitchy-red.

Head distinctly, moderately coarsely, and closely punctured near the sides, irregularly and much more distantly on the vertex, with a few fine grey hairs; forehead slightly curved. *Eyes* distinctly but not coarsely faceted. *Thorax* distinctly but not closely punctate, more finely near the base, formed as in the preceding species. *Scutellum* small, triangular. *Elytra* finely and moderately closely punctate, somewhat coriaceous, becoming smooth behind.

Front *tibiae* nearly straight, grooved along the outer face, the intermediate moderately arched. *Club* apparently 6-articulate.

The unusually dark legs and antennae will lead to its identification.

Length, $2\frac{1}{4}$ lines; breadth, $1\frac{3}{8}$ lines.

Midhirst, Taranaki. I could find only a single specimen.

Pedilophorus laetus Broun. Man. N.Z. Coleopt., p. 1349.

Glossy, aeneous, tinged with rufo-cupreous, legs and basal joint of antennae dark rufous, remaining joints and the tarsi dark fulvescent.

Head moderately curved in front, rather coarsely, a little rugosely, and irregularly punctate. *Thorax* distinctly, moderately finely, and closely punctured, less evidently near the base. *Scutellum* small, triangular. *Elytra* very distinctly and rather closely punctured almost to the extremity, where there are a few slender setae.

Tibiae with slender grey setae, the front pair nearly straight and slightly grooved along the outer face, the others moderately arched. *Eyes* finely

yet distinctly faceted. *Antennae* moderately elongate, 3rd joint elongate and slender, 4th and 5th similar but rather shorter than 3rd; 6th as long as broad, only slightly thickened; 7th subtriangular and moderately expanded: the club, consequently, seems to be 5-articulate.

Underside shining black with metallic-red reflections, sparingly and very finely pubescent. The *metasternum* distinctly punctate, *abdomen* rather more closely and finely, the last segment large, unimpressed.

Prosternal process broadly concave along the middle. *Epipleurae* very slightly expanded and flattened alongside the metasternum.

One of the largest and finest of our species. The concave prosternal process and simple terminal ventral segment, by themselves, are sufficient for the separation of this from the other Westland species, *P. foveigerus*.

Length, $2\frac{3}{4}$–3 lines; breadth, $1\frac{5}{8}$–$1\frac{3}{4}$ lines.

Boatman's, Reefton. Discovered by Mr. T. Cavell. Two.

Pedilophorus lewisi Broun. Ann. Mag. Nat. Hist., January, 1907. (*Fig.* 7.)

Body broadly oval, moderately convex, minutely and sparingly pubescent, nitid; bronzed black, legs and 1st antennal joint piceo-rufous, remaining joints and the tarsi rather paler.

Head distinctly and rather closely punctate; the forehead obtuse, not at all sharply limited in front. *Thorax* strongly transverse, the middle of its apex subtruncate, its sculpture similar to that of the head but becoming finer towards the base. *Scutellum* subcordiform. *Elytra* rather more finely sculptured than the thorax, and with from 2 to 7 series of punctures, which sometimes form indefinite striae, on each elytron.

Tibiae finely setose, with short terminal spurs; the anterior a little curved, and grooved along the outside. *Antennae* very gradually dilated, the club apparently 6-jointed, the 4th joint rather smaller than the contiguous ones.

Underside, femora inclusive, shining pitchy-black, sparingly clothed with greyish-yellow slender hairs. *Metasternum* coarsely, *abdomen* finely yet distinctly punctured, terminal segment with an indistinct apical fovea.

Prosternal process nearly plane, moderately broad, finely punctate. *Epipleurae* moderately broad and flat alongside the metasternum. *Mandibles* trifid at the extremity. *Tarsi* thickly pubescent underneath, their membranous appendages generally only moderately developed.

This fine species may be immediately identified by a glance at the elytral sculpture.

Length, $3\frac{1}{4}$–$3\frac{3}{4}$ lines; breadth, 2–$2\frac{1}{4}$ lines.

Old Man Range, Otago, at an elevation of 4,100 ft. Named in honour of Mr. J. H. Lewis, its discoverer.

3161. **Pedilophorus sculpturatus** sp. nov.

Oblong-oval, only moderately convex, sparingly clothed with fine erect grey setae; shining, aeneous, with rufo-cupreous and violaceous reflections, legs and first joint of antennae dark rufous, remaining joints and the tarsi infuscate.

Head slightly uneven, moderately coarsely and closely punctate; forehead subtruncate in the middle. *Thorax* hardly twice as broad as long, hind angles acutely rectangular, the anterior a little prominent; its sculpture very distinct, almost similar to that of the head. *Scutellum* triangular.

Elytra distinctly but not closely punctured, more finely behind; they are of unusually oblong form, with nearly straight sides before the middle, and not at all abruptly declivous behind.

Tibiæ with slender yet quite distinct grey setæ, the front pair slightly curved, the intermediate moderately. *Tarsi* stout, with well-developed appendages. *Mandibles* trifid at extremity. *Eyes* finely faceted. *Antennæ* stout, basal joint thick, 3rd only twice as long as broad, 4th shorter than 5th; 6th small, not broader than 5th; 7–10 transverse, very gradually dilated; 11th nearly the length of the preceding 2 combined: club 5-articulate.

Underside shining, black, with decumbent brassy hairs; the punctation very distinct, coarse on the sternum.

Differs from all our species by the more elongate form, the sides of the elytra being but little curved for half their length, the thorax is just appreciably longer than usual, and the sculpture is obvious throughout.

Length, $2\frac{1}{2}$ lines; breadth, $1\frac{1}{4}$ lines.

Broken River, Canterbury. Mr. J. H. Lewis. Unique.

3162. Pedilophorus cognatus sp. nov.

Oblong-oval, only moderately convex, shining, bronzed black, legs piceo-rufous, antennæ and tarsi fusco-rufous; the setæ short and slender, erect, and numerous.

Very similar to *P. sculpturatus* as regards form and sculpture; the hind-body even less convex, without iridescent reflections, much darker in colour; the setæ of the under-surface more distinct, and with joints 4 and 5 of the antennæ more elongate. The sides of the thorax are not quite straight, being just perceptibly rounded. The middle tibiæ are nearly straight.

Length, $2\frac{1}{8}$ lines; breadth, $1\frac{1}{8}$ lines.

Broken River. Mr. J. H. Lewis. One.

Pedilophorus coruscans Pascoe. Man. N.Z. Coleopt., p. 245.

Elliptical, very convex, shining, æneous, antennæ and legs pale ferruginous.

Head finely and almost closely punctate. *Thorax* and elytra coriaceous, very finely punctate. *Scutellum* transversely triangular, smooth.

Underside ferruginous, finely punctate. *Femora* and *tibiæ* sparsely setose.

Length, 2 lines.

Wellington.

Pedilophorus helmsi Reitter.

Oval, short, very convex, smooth, finely and evenly punctured above; glossy, black, subæneous, legs ferruginous; antennæ elongate, these and the tarsi fusco-testaceous.

Head nearly smooth on the middle, its sides coarsely punctured. *Thorax* very much narrowed anteriorly, with acute front angles. *Scutellum* minute. *Elytra* acuminate behind.

Long., 3·7 mm.

Greymouth. Mr. R. Helms.

Obs.—Not in my collection; placed temporarily in Section 2.

SECTION 3.

Body obviously setigerous.

3163. Pedilophorus bryobius sp. nov.

Oblong-oval, only moderately convex, shining, viridi-violaceous, legs and antennae fusco-rufous; bearing numerous outstanding, elongate, fulvescent setae.

Head closely punctured near the eyes, more coarsely and distantly on the vertex; forehead strongly rounded, the groove between it and the punctate labrum deep and smooth. *Thorax* almost twice as long as broad; bisinuate at the base, so that its angles appear rather prominent and directed backwards, the sides margined and much narrowed towards the straight anterior angles; apex medially truncate, sinuated and margined behind the prominent eyes; its surface moderately coarsely but distantly punctate. *Scutellum* triangular, distinct. *Elytra* rather distantly, moderately coarsely, and subseriate-punctate, but quite estriate, the sculpture less distinct behind.

Tibiae nearly straight, indistinctly impressed, with fine elongate greyish setae. *Tarsi* with well-developed membranous appendages. *Antennae* with thick, pyriform, dark-red basal joints, 3rd joint longer than 4th, 7–10 gradually dilated but hardly transversal; 11th elongate, nearly the length of the preceding 2 combined: these terminal 5 joints are more densely pubescent than the others, and evidently form the elongate club.

Underside nitid, nigrescent, clothed like the legs, the breast coarsely, the abdomen finely punctate. The posterior *coxal laminae* very much narrowed towards the sides.

Length, 2 lines; breadth, nearly $1\frac{1}{8}$ lines.

Mount Quoin, Wellington. I am indebted to Mr. A. O'Connor for a pair found by him amongst moss on trees, at an elevation of about 3,800 ft.

Liochoria Pascoe. Ann. Mag. Nat. Hist., September, 1875.

Antennae sub-elongatae, articulis sex ultimis, ultimo excepto, perfoliatis, clavam angustatam formantibus. *Labrum* magnum, distinctum. *Palpi* maxillares articulo ultimo ovali. *Tibiae* anticae extus excavatae.

Liochoria huttoni Pascoe. Ann. Mag. Nat. Hist., September, 1875.

L. elliptica convexa, nigra, nitida, antennis pedibusque piceis; capite prothoraceque confertim subtiliter, elytris subtilissime, punctatis; scutello aequilateraliter triangulari; corpore infra femoribusque subtiliter punctatis, sparse hirsutis; tibiis extus integris, intus ciliatis.

Long., $3\frac{2}{3}$ lin.

Otago. Captain Hutton.

Cytilissus Broun. Ann. Mag. Nat. Hist., September, 1893.

Body subrotundate, convex. *Labrum* moderately carinate at the base. *Thorax* and elytra truncate at the base. *Scutellum* absent. *Tarsi* with well-developed membranous appendages. *Eyes* large, prominent, distinctly faceted. Maxillary *palpi* with rather broad terminal joints.

Antennae free, rather short; basal joint cylindric, thick; 2nd quite half the length of the 1st, narrowed apically; 3rd slender, nearly as long as the following 2 combined: club large, compact, indistinctly articulated, but apparently composed of 2 nearly equal joints. The antennae, therefore, seem to be only 7-articulate, a character which at once separates it from all its congeners.

The only exponent of this genus, in facies, resembles a hairy *Synorthus*.

Cytilissus claviger Broun. Ann. Mag. Nat. Hist., September, 1893.

Fusco-piceous, slightly nitid, tibiae and basal joint of antennae dark red, remaining joints and the tarsi testaceous; with numerous erect, elongate, slender, greyish-yellow hairs.

Head finely and distantly punctured; the forehead subtruncate between the antennae, with fine margins near these latter and the eyes. *Thorax* strongly transverse, its sides finely margined, straight, but gradually narrowed anteriorly; apex subtruncate, with deflexed acute angles; its surface very finely, rather distantly and indistinctly punctate. *Elytra* with sculpture similar to that of the thorax, their suture very fine and close, the apex broadly rounded.

Tibiae moderately arched externally, with fine setae, the anterior slightly grooved along the outer face.

Underside piceous, punctate, with elongate pale hairs.

Length, $1\frac{1}{8}$ lines; breadth, quite $\frac{3}{4}$ line.

Mount Pirongia. Only a single specimen could be secured during several visits.

Limnichus Latreille. Lacord., Hist. des Ins. Coleopt., tom. ii, p. 486.

Body oblong-oval, moderately convex. *Organs* of the mouth, and the eyes, concealed during the retraction of the head. *Antennae* 10-articulate. The species very small.

Limnichus decorus Broun. Man. N.Z. Coleopt., p. 247. (*Fig.* 8.)

Oval, moderately convex, glossy; black, slightly olivaceous, legs and antennae rufo-piceous; rather thickly clothed with bright-yellowish and grey, decumbent, moderately slender setae, the grey ones scattered over the elytra.

Head about as long as the thorax, only half its width, a little narrowed anteriorly, not distinctly punctate, rather densely pubescent. *Thorax* twice as broad as it is long, its sides straight but gradually narrowed anteriorly; apex subtruncate, anterior angles acute and slightly prominent; base slightly sinuate towards the sides, but in the middle incurved in front of the scutellum; its punctation very fine and close, rather indistinct. *Scutellum* proportionally rather large, elongate-triangular, minutely sculptured. *Elytra* curvedly narrowed, but not abruptly declivous, posteriorly; with fine coriaceous sculpture, and near the base with a few fine distant punctures or minute granules, their suture well marked.

Tibiae rather slender, nearly straight. *Tarsi* simple, terminal joint of the posterior equals the basal 4 combined in length. *Eyes* lateral, rather flat. *Antennae* about as long as the head and thorax, rather laxly articulated, intermediate joints narrowed apically, 8th and 9th slightly broader, 10th rather larger and subrotundate; club triarticulate.

Length, $\frac{7}{8}$ line; breadth, $\frac{1}{2}$ line.

Tairua. Two specimens in my own collection.

Limnichus simplex Broun. Man. N.Z. Coleopt., p. 247.

Oblong-oval, moderately shining, black, covered with depressed grey setae.

Thorax indistinctly sculptured, its clothing slightly flavescent; formed as in *L. decorus*. *Scutellum* large. *Elytra* finely sculptured, appearing minutely granulate when examined under the microscope.

Underside black, shining, finely punctate, with depressed, slender, brassy setae; these are somewhat concentrated along the middle of the last ventral segment. *Metasternum* distinctly sulcate along the middle.

The name originally applied, *L. punctatus*, having been used before for a North American species, has now been changed to *L. simplex*.

Length, 1 line; breadth, ½ line.

Lindis Pass, Otago. Captain F. W. Hutton.

Limnichus picinus Broun. Man. N.Z. Coleopt., p. 671.

Oblong-oval, moderately convex, slightly nitid, piceo-niger, sparingly clothed with short yellowish setae.

Head indistinctly sculptured. *Thorax* finely yet distinctly and closely punctured; apex medially truncate, but obliquely prolonged towards the acute anterior angles. *Scutellum* large, triangular, finely punctate. *Elytra* minutely granulate near the base, punctate along the dorsum, the sculpture becoming obsolete towards the sides.

The more definite sculpture differentiates this from the preceding species.

Length, 1⅛ lines; breadth, ⅝ line.

Castle Hill, Canterbury. Mr. J. D. Enys. Unique.

Limnichus nigripes Broun. Man. N.Z. Coleopt., p. 1449.

Oblong-oval, moderately convex, nigrescent, legs and antennae piceous; nitid, irregularly clothed with depressed yellowish setae, the tibiae with fine grey setae.

Head subopaque, indefinitely sculptured. *Thorax* finely and indistinctly punctate; the setae near the middle exceedingly short, but at each side of the middle, near the base, rather elongate and disposed transversely. *Scutellum* triangular, large, punctate. *Elytra* distinctly and closely punctate or subgranulate, the sculpture near the sides hidden by the dark clothing there. *Eyes* large, but only very slightly convex.

Underside black, bearing depressed almost white setae, finely and not closely punctate. The *prosternum* in the middle is cuneiform, truncate in front and tapering towards the extremity. Cavities for the reception of the legs moderately deep. *Metasternum* finely grooved along the middle.

With more brightly coloured setae than *L. simplex*, the elytral sculpture more distinct than in *L. decorus*.

Length, 1 line; breadth, ⅝ line.

Ashburton, Canterbury. A pair, in excellent condition, from Mr. W. W. Smith.

DESCRIPTION OF PLATE.

Fig. 1. Nosodendron ovatum *Broun.*
„ 2. Curimus squamifer *Broun.*
„ 3. Synorthus nigralis *Broun.*
„ 4. „ setarius *Broun.*
„ 5. Pedilophorus foveigerus *Broun.*
„ 6. „ pulcherrimus *Broun.*
„ 7. „ lewisi *Broun.*
„ 8. Limnichus decorus *Broun.*

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A. Waterworth, photo.

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